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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/975,194	10/10/2001	Shinichi Takasugi	S004-4420	8801

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EXAMINER
NGUYEN, HA T

ART UNIT	PAPER NUMBER
2812	

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/975,194	Applicant(s) TAKASUGI ET AL.	
	Examiner Ha T. Nguyen	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 33-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 33-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Notice to applicant

1. Applicants' Amendment and Response to the Office Action mailed 1-2-03 has been entered and made of record (Paper No. 7).

Applicants' cancellation of claims 12-32 in Paper No. 7 was acknowledged.

Response to Amendment

2. In view of Applicants' cancellation of the claims, the rejection of claims 25-30 under 35 U.S.C. 112 second paragraph and the rejection of claims 201-30 under 35 U.S.C. 103 have been rendered moot.

In view of Applicants' arguments and amendment to the claims, the rejection of claims 4-11, under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (U.S. Patent 6247277, hereinafter "Mori") and Kurz has been withdrawn.

Applicants' arguments with regard to the rejections under 35 U.S.C. 103 have been fully considered, but they are not deemed to be persuasive, the response to Applicants' argument will be incorporated in the modified rejection given below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (U.S. Patent 5361685) in view of Kurz et al. (U.S. Patent 6130311, hereinafter "Kurz") and Wei et al. (USPN 6152970, hereinafter "Wei").

[Claim 1] Referring to Figs. and related text, Tanaka discloses a method of producing a storage device comprising the steps of : assembling together components comprised of a positive electrode, a negative electrode, a non-aqueous solvent, an electrolyte containing a supporting salt, a separator, and a gasket to form a coin- or button-type storage device (see Figs. 1, 2, Summary and col. 9, line 4-col. 10, line 25). But it does not disclose expressly forming double layer capacitor and heating the assembled device. However, the missing limitations are well known in the art because Kurz discloses the heating of an assembled capacitor step in the fabrication of capacitor (See Comparative example 4). Note that the examiner interpreted Kurz' capacitors to be assembled capacitors. Besides Wei is cited as evidence showing batteries and capacitors have similar characteristics, their methods of formation are also similar (see col. 1, lines 8-30). A person of ordinary skill is motivated to modify Tanaka with Kurz and Wei to obtain capacitor capable of withstanding reflow temperature.

[Claim 2] The combined teaching of Tanaka and Kurz does not disclose wherein the method comprises welding an outer connection terminal to said capacitor after heating. However, it is a common practice in the art to weld the capacitor to external terminals allowing connection of the capacitor with the controlling circuitry of an instrument. It is not clear when the welding of external connections to the capacitor is done, hower, selection of any order of performing process steps is primae facie obvious in the absence of new or unexpected results (See MPEP 2144.04 (d) citing *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)).

[Claim 3] Kurz also discloses wherein the heating the assembled capacitor is performed in a temperature range up to 235C (see col. 6, lines 18-22). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prim facie case of obviousness exists (see MPEP 2144.05). The routine varying of parameters to produce expected changes are within the ability of one of ordinary skill in the art. Patentability over the prior art will only occur if the

parameter variation produces an unexpected result. In re Aller, Lacey and Hall, 105 U.S.P.Q. 233, 235. In re Reese 129 U.S.P.Q. 402, 406.

[Claim 33] Tanaka also discloses caulking the components (see Figs. 1, 2, example 1, and col. 10, lines 32-48).

Therefore, it would have been obvious to combine Tanaka with Kurz and Wei to obtain the invention as specified in claims 1-3 and 33.

5. Claims 1-11 and 33-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori or Watanabe et al. (USPN 6489, hereinafter " Watanabe") in view of Wei .

[Claims 1, 4, 33, and 34] Referring to Fig. 1 and related text, Mori discloses a mounting method comprising: providing a circuit substrate (see abstract) ; assembling by caulking together components comprised of a positive electrode, a negative electrode, a non-aqueous solvent, an electrolyte, a separator, and a gasket to form a coin- or button-type storage device (see experiment 1); heating the assembled device (see col. 12, lines 14-24), arranging the assembled device on the circuit substrate and reflow soldering said electric device on said circuit substrate (See col. 12, lines 1-29), and Watanabe discloses the above features (see col 9, line 16-col. 10, line 38) the examiner interpreted the passes to the Reflow furnace for testing to be the heating step and the actual reflow soldering, when the device is mounted onto a circuit substrate to be used, to be the reflow soldering step. But it does not disclose expressly the formation of a double layer capacitor. However, Wei discloses that batteries and double layer capacitors are formed in a similar manner (see col. 1, lines 8-30).

[Claims 2, 5, 36- 40, and 43-47] Mori also discloses wherein the method comprises welding an outer connection terminal to said device after said assembling step (see par. bridging cols. 1 and 2) and the use of heat to remove moisture (see col. 10, lines 31-51) and Watanabe also discloses these features (col. 1, lines 42-53 and col. 5, lines 35-43). Wei discloses the removal of water by electrolysis after the capacitor is assembled by applying a voltage, inherently heat (see col. 7, line 58-col. 8, line 40). It is not clear when the welding of external connections to the capacitor is done, hower, selection of any order of performing process steps is primae facie obvious in the absence of new or unexpected results (See MPEP 2144.04 (d) citing *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)).

[Claims 3, 41, and 48] Mori also discloses wherein the heating temperature is in a range of from 180 to 245C (see col. 12, lines 14-29) and Watanabe discloses a range up to 300C (see par. bridging cols. 1 and 2). The above arguments concerning overlapping ranges also apply.

[Claims 6-11, 35, and 49-54] The combined teaching of Mori or Watanabe and Wei does not disclose expressly all the details about the conditions for the heating step relative to that of the reflow soldering. However, considering the conditions of the reflow test in Mori (col. 12, lines 14-29) and the voltage applied to the capacitor in Wei (col. 1-25) or Watanabe (see col. 10, lines 27-31) , it would have been obvious to use heating conditions that are closed to the reflow soldering step to obtain capacitors capable of withstanding the reflow temperature without excessive heating resulting in low yield. Note that at higher temperature where damage can occur more easily, tighter control is necessary while at lower temperature, for lower cost, more relaxed controlled can be tolerated .

[Claims 42 and 55] It would have been obvious for a person of ordinary skill in the art to have a marking to distinguished a heated assembled capacitors from the one that has not to avoid low yield due to error.

Therefore, it would have been obvious to combine Mori with Wei to obtain the invention as specified in claims 1-11 and 33-55.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will

the statutory period for response expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha Nguyen whose telephone number is (703)308-2706 . The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM, except the first Friday of each bi-week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308-3325. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Ha Nguyen
Primary Examiner
05- 30- 03